沪制01150234号

Agilent 7820A GC

Site Preparation Guide

Agilent Technologies

Notices

Manual Part Number

G4350-90016

Edition

First edition, March 2009

Printed in China

Agilent Technologies, Inc.
412 Ying Lun Road
Waigaoqiao Free Trade Zone
Shanghai 200131 P.R.China

Acknowledgments

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Safety Notices

CAUTION

A **CAUTION** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a **CAUTION** notice until the indicated conditions are fully understood and met.

WARNING

A WARNING notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.

Contents

7820A GC Site Preparation

This section outlines the space and resource requirements for GC and automatic liquid sampler (ALS) installation. For a successful and timely installation of the instrument, the site must meet these requirements before beginning installation. Necessary supplies (gases, tubing, operating supplies, consumables, and other usage-dependent items such as columns, vials, syringes, and solvents) must also be available. Note that performance verification requires the use of helium carrier gas. Refer to the Agilent Web site at www.agilent.com/chem for the most up-to-date listing of GC and ALS supplies and consumables.

If you require any additional clarification on the requirements described in this manual, please visit the Agilent web site at www.chem.agilent.com, or contact your Agilent sales representative.

Customer Responsibilities

The specifications in this manual outline the necessary space, electrical outlets, gases, tubing, operating supplies, consumables, and other usage-dependent items such as columns, vials, syringes, and solvents required for the successful installation of instruments and systems.

If Agilent is delivering installation and familiarization services, users of the instrument should be present throughout these services; otherwise, they will miss important operational, maintenance, and safety information.

If Agilent is delivering installation and familiarization services, delays due to inadequate site preparation could cause loss of instrument use during the warranty period. In extreme cases, Agilent Technologies may ask to be reimbursed for the additional time required to complete the installation. Agilent Technologies provides service during the warranty period and under maintenance agreements only if the specified site requirements are met.

Before contacting Agilent to arrange for installation of your new GC, you must complete the Site Readiness Certification found in Appendix A, “Site Preparation Readiness.”

Site Preparation Good Practices

If you are not already familiar with Agilent instruments or with gas chromatography, prepare for the installation and familiarization service by doing the following:

- Visit the Agilent web site at www. agilent.com/chem, and view the 7820A GC information available there.
- Attend one of the Agilent e-Seminars or training classes. Agilent also provides a variety of training options, from online training to on-site classes.

Having a basic knowledge of the instrument will enhance any the familiarization services.

Agilent Technologies Installation and Familiarization Services

If you purchased installation and familiarization services from Agilent, these services include:

- Installation of the GC
- Installation of purchased Agilent software
- Agilent chemical test to verify GC function
- Several hours of GC familiarization training for 2 operators. Some additional software training time is provided if you have purchased an Agilent software bundle.

The basic installation and familiarization services do NOT include tasks such as:

- Network setup of instruments or computers to the site network
- Customizations
- Method or application setup, development, or testing
- Analysis of customer standards or samples
- Site preparation (such installation of gas cylinders, tubing, traps, electrical supplies, or clearing of suitable bench space)
- Familiarization or installation of nonAgilent software

To arrange for additional services, including training or application development, contact your Agilent sales representative or visit the Agilent web site at www.agilent.com/chem.

Computer Requirements

A computer is required for 7820A GC installation and operation. The computer must meet the minimum requirements to run the Agilent Instrument Utility. Table 1 lists these requirements for version B.01.01 of the Instrument Utility.

Table 1 Computer requirements

	Minimum	Recommended
Processor	1.5 GHz Pentium® 4	Pentium D or higher, Intel® Dual-Core 3.4 GHz or higher
RAM	1 GB	≥ 2 GB (Windows XP Pro) ≥ 4 GB (Windows Vista® Business)
Hard disk	40 GB	≥ 160 GB
Video	1024 x 768 resolution, 16K colors	≥ 1280 x 800 resolution, 16K colors
Removable media	ATAPI DVD drive	ATAPI DVD drive
Mouse	Microsoft® Windows® compatible	Microsoft Windows compatible
LAN	10/100 baseT	10/100 baseT
Operating system	Windows XP Pro, Service Pack 3	Windows XP Pro, Service Pack 3 or Windows Vista Business, Service Pack 1
Printer	Operating system printer using PCL 5e or PCL 6	Operating system printer using PCL 5e or PCL 6

Agilent also provides a free utility that can verify if your computer meets the requirements for a selected Agilent software product. To download the tool, go to the Agilent web site at www.agilent.com/chem, then search for “PC Utility.”

Dimensions and Weight

Select the laboratory bench space before the system arrives. Pay special attention to the total height requirements. Avoid bench space with overhanging shelves. See Table 2.

The instrument needs space for proper convection of heat and ventilation. Allow at least 25 cm (10 in) clearance between back of the instrument and wall to dissipate hot air.

Table 2 Required height, width, depth, and weight

Product	Height	Width	Depth	Weight
7820A GC	49 cm (19.5 in)	56 cm (22 in)	51 cm (20.5 in)	50 kg (110 lb)
Additional space requirements				
• Typical laser printer		Requires 41 cm (16 in)		
• GC operational oven access		Requires ≥ 30 cm (12 in) open space above GC		
• GC with 7693A ALS injector		Requires 50 cm (19.5 in) above the GC		

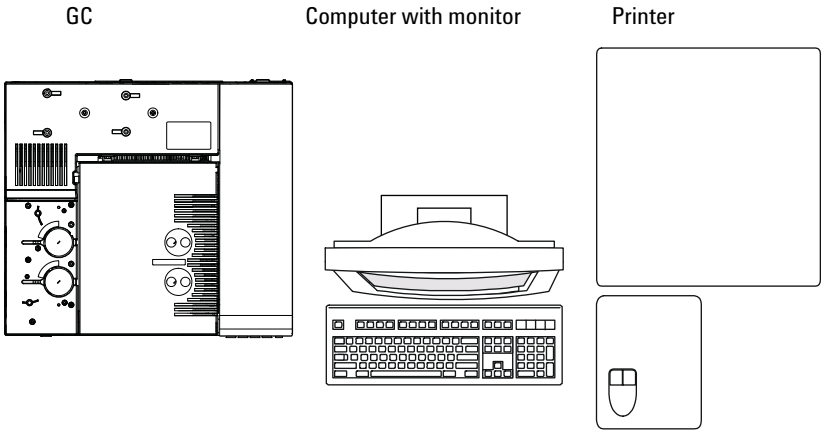


Figure 1 Top view of typical installation (7820A GC system)

A simple 7820A system that includes a GC, ALS injector, and a computer would require about 111 cm (3 ft 8 in.) of bench space. Allowing for operational access and a printer, a total of 153 cm (5 ft) of bench space should be available for a full GC system. Some repairs to the GC will also require access to the back of the instrument.

Power Consumption

Table 3 lists site power requirements.

- The number and type of electrical outlets depend on the size and complexity of the system.
- Power consumption and requirements depend on the country to which the unit ships. Find the instrument type and your line voltage to find your instrument's power requirements.
- The electrical outlet for the unit should have a dedicated ground. Voltage between ground and neutral should be less than 2.5 VAC.
- The voltage requirements for your instrument are printed near the power cord attachment.

Table 3 Power requirements

Product		Line voltage (VAC)	Frequency (Hz)	Current rating (amps)	Maximum continuous power consumption (VA)	Outlets required
Agilent 7820A	Standard oven	100 single phase (–10% / +10%)	48–63	12.5	1500	1
		120/200/220/230/ 240 single phase (–10% / +10%)	48–63	15.9 / 9.6/ 9.3 / 9.3 / 9.2	2250	1
Data system PC system (monitor, CPU, printer)		100 (–10% / +5%)	50/60 ± 5%	15	1000	3–5
		120 (–10% / +5%)	50/60 ± 5%	15	1000	3–5
		200–240 (–10% / +5%)	50/60 ± 5%	15	1000	3–5

WARNING **Do not use extension cords with Agilent instruments. Extension cords normally are not rated to carry enough power and can be a safety hazard.**

Although your GC should arrive ready for operation in your country, compare its voltage requirements with those listed in Table 3. If the voltage option you ordered is not suitable for your installation, contact Agilent Technologies.

Grounding

CAUTION A proper earth ground is required for GC operations. Any interruption of the grounding conductor or disconnection of the power cord could cause a shock that could result in personal injury.

To protect users, the metal instrument panels and cabinet are grounded through the three-conductor power line cord in accordance with International Electrotechnical Commission (IEC) requirements.

The three-conductor power line cord, when plugged into a properly grounded receptacle, grounds the instrument and minimizes shock hazard. A properly grounded receptacle is one that is connected to a suitable earth ground. Be sure to verify proper receptacle grounding.

Connect the GC to a dedicated receptacle. Use of a dedicated receptacle reduces interference.

Heat Dissipation

Use Table 4 to estimate the additional BTUs of heat dissipated from this equipment. Maximums represent the heat given off when heated zones are set for maximum temperatures.

Table 4 Heat dissipation

	Oven type	
	Standard oven ramp	**100 V Power option**
Agilent 7820A	7681 BTU/hour maximum	5120 BTU/hour maximum

Exhaust Venting

Hot air (up to 425 °C) from the oven exits through a vent in the rear. Allow at least 25 cm (10 in) clearance behind the instrument to dissipate this air.

WARNING **Do not place temperature-sensitive items (for example, gas cylinders, chemicals, regulators, and plastic tubing) in the path of the heated exhaust. These items will be damaged and plastic tubing will melt. Be careful when working behind the instrument during cool-down cycles to avoid burns from the hot exhaust.**

During normal operation of the GC with many detectors and inlets, some of the carrier gas and sample vents outside the instrument through the split vent, septum purge vent, and detector exhaust. If any sample components are toxic or noxious, or if hydrogen is used as the carrier gas, the exhaust must be vented to a fume hood. Place the GC in the hood or attach a large diameter venting tube to the outlet for proper ventilation.

To further prevent contamination from noxious gases, attach a chemical trap to the vent(s).

Environmental Conditions

Operating the instrument within the recommended ranges optimizes instrument performance and lifetime. Performance can be affected by sources of heat and cold from heating, air conditioning systems, or drafts. See Table 5. The conditions assume a noncondensing, noncorrosive atmosphere.

Table 5 Environmental conditions for operation and storage

Product	Conditions	Operating temp range	Operating humidity range	Maximum altitude
Agilent 7820A	Standard oven ramp	5 to 45 °C	5 to 90%	3,100 m
	Storage	–20 to 65 °C	0 to 90%	

Gas Selection

Table 6 lists gases usable with Agilent GCs and capillary columns. When used with capillary columns, GC detectors require a separate makeup gas for optimum sensitivity.

Table 6 Gases usable with Agilent GCs and capillary columns

Detector type	Carrier	Preferred makeup	Alternate choice	Detector, anode purge, or reference
Electron capture (ECD)	Hydrogen Helium Nitrogen Argon/Methane*	Argon/Methane Argon/Methane Nitrogen Argon/Methane	Nitrogen Nitrogen Argon/Methane Nitrogen	Anode purge must be same as makeup
Flame ionization (FID)	Hydrogen Helium Nitrogen	Nitrogen Nitrogen Nitrogen	Helium Helium Helium	Hydrogen and air for detector
Nitrogen-Phosphorus (NPD)	Helium Nitrogen	Nitrogen Nitrogen	Helium* Helium	Hydrogen and air for detector
Thermal conductivity (TCD)	Hydrogen Helium Nitrogen	Must be same as carrier and reference	Must be same as carrier and reference	Reference must be same as carrier and makeup

* Depending on bead type, higher makeup gas flow rates (> 5 mL/min) may introduce cooling effects or shorten bead life.

Table 7 lists gas recommendations for packed column use. In general, makeup gases are not required with packed columns.

Table 7 Gases usable with Agilent GCs and packed columns

Detector type	Carrier gas	Comments	Detector, anode purge, or reference
Electron capture (ECD)	Nitrogen	Maximum sensitivity	Nitrogen
	Argon/methane	Maximum dynamic range	Argon/Methane
Flame ionization (FID)	Nitrogen	Maximum sensitivity	Hydrogen and air for detector.
	Helium	Acceptable alternative	
Nitrogen-Phosphorus (NPD)	Helium	Optimum performance	Hydrogen and air for detector.
	Nitrogen	Acceptable alternative	

Table 7 Gases usable with Agilent GCs and packed columns (continued)

Detector type	Carrier gas	Comments	Detector, anode purge, or reference
Thermal conductivity (TCD)	Helium	General use	Reference must be same as carrier and makeup.
	Hydrogen	Maximum sensitivity*	
	Nitrogen	Hydrogen detection†	
	Argon	Maximum hydrogen sensitivity[1]	

* Slightly greater sensitivity than helium. Incompatible with some compounds.

† For analysis of hydrogen or helium. Greatly reduces sensitivity for other compounds.

Agilent recommends that carrier and detector gases be 99.9995% pure. See Table 8. Air needs to be zero grade or better. Agilent also recommends using high quality traps to remove hydrocarbons, water, and oxygen.

Table 8 Carrier gas purity

Carrier gas requirements	Purity	Notes
Helium (carrier)	99.9995%	Hydrocarbon free
Hydrogen (carrier)	99.9995%	SFC grade
Nitrogen (carrier)	99.9995%	

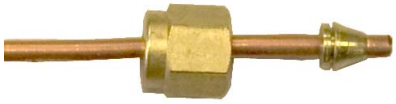
For installation checkout, Agilent requires the gas types shown in Table 9.

Table 9 Gases required for checkout

Detector	Gases required
FID	Carrier: helium Makeup: nitrogen Fuel: hydrogen Aux gas: Air
TCD	Carrier and reference: helium
NPD	Carrier: helium Makeup: nitrogen Fuel: hydrogen Aux gas: Air
uECD	Carrier: helium Anode purge and makeup: nitrogen

Gas Supply

Supply instrument gases using tanks, an internal distribution system, or gas generators. If used, tanks require two-stage pressure regulators with packless, stainless steel diaphragms. The instrument requires 1/8-inch Swagelok connections to its gas supplies. See Figure 2. Plumb the gas supply tubing/regulators so that one 1/8-inch Swagelok female connector is available for each gas needed at the GC.



Swagelok nut and ferrules

Female Swagelok fitting on GC

Figure 2 Example Swagelok connector and hardware

Table 10 lists minimum and maximum delivery pressures for inlets and detectors, measured at the bulkhead fittings on the back of the instrument.

Table 10 Delivery pressures required at the GC, in kPa (psig)

	Detector type				Inlet type	
	FID	NPD	TCD	uECD	Split/Splitless	Purged packed
Hydrogen	240–690 (35–100)	240–690 (35–100)				
Air	380–690 (55–100)	380–690 (55–100)				
Makeup	380–690 (55–100)	380–690 (55–100)	380–690 (55–100)	380–690 (55–100)		
Reference			380–690 (55–100)			

Table 10 Delivery pressures required at the GC, in kPa (psig) (continued)

	Detector type				Inlet type	
	FID	**NPD**	**TCD**	**uECD**	**Split/Splitless**	**Purged packed**
Carrier (max)					827 (120)	827 (120)
Carrier (min)					(20 psi) above pressure used in method	

Conversions: 1 psi = 6.8947 kPa = 0.068947 Bar = 0.068 ATM

Notes:

- If you have not requested option 305, you must supply pre-cleaned, 1/8-inch copper tubing and a variety of 1/8-inch Swagelok fittings to connect the GC to inlet and detector gas supplies.
- If you purchased automated valving, the valve actuation requires a **separate** pressurized, dry air supply at 380 kPa (55 psig). This air supply must end in a male fitting compatible with a 1/4-inch id plastic tube at the GC.
- Never use liquid thread sealer to connect fittings. Never use chlorinated solvents to clean tubing or fittings.

Gas Plumbing

WARNING **All compressed gas cylinders should be securely fastened to an immovable structure or permanent wall. Compressed gases should be stored and handled in accordance with the relevant safety codes.**

Gas cylinders should not be located in the path of heated oven exhaust.

To avoid possible eye injury, wear eye protection when using compressed gas.

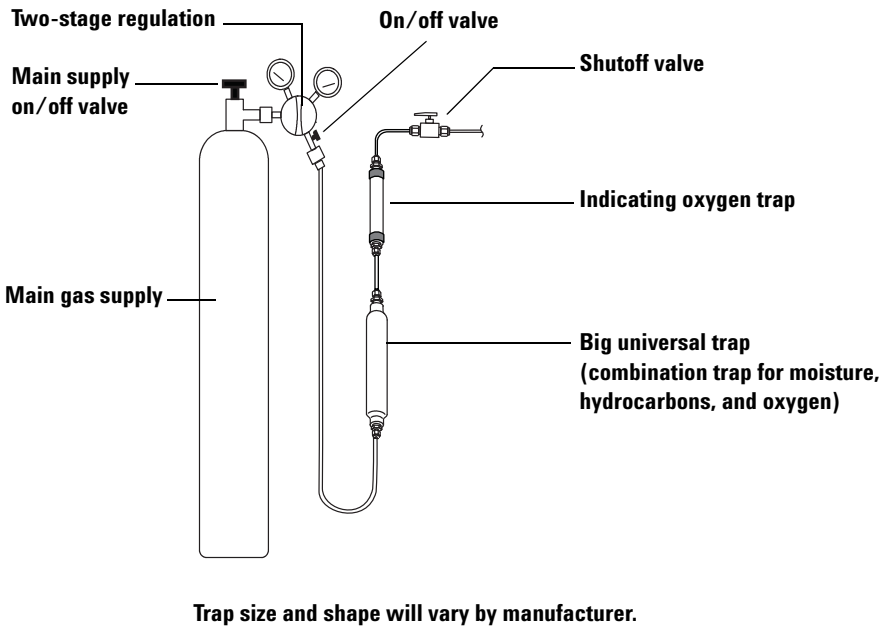


Figure 3 Recommended traps and plumbing configuration from a carrier gas cylinder

- Agilent strongly recommends two-stage regulators to eliminate pressure surges. High-quality, stainless-steel diaphragm-type regulators are especially recommended.
- On/off valves mounted on the outlet fitting of the two-stage regulator are not essential but are very useful. Be sure the valves have stainless-steel, packless diaphragms.

- FID and NPD detectors require a dedicated air supply. Operation may be affected by pressure pulses in air lines shared with other devices.
- Flow- and pressure-controlling devices require at least 10 psi (138 kPa) pressure differential across them to operate properly. Set source pressures and capacities high enough to ensure this.
- Situate auxiliary pressure regulators close to the GC inlet fittings. This ensures that the supply pressure is measured at the instrument (rather than at the source); pressure at the source may be different if the gas supply lines are long or narrow.

Supply tubing for carrier and detector gases

Use only preconditioned copper tubing (part number 5180-4196) to supply gases to the instrument. Do not use ordinary copper tubing—it contains oils and contaminants.

CAUTION Do not use methylene chloride or other halogenated solvent to clean tubing that will be used with an electron capture detector. They will cause elevated baselines and detector noise until they are completely flushed out of the system.

CAUTION Do not use plastic tubing for suppling detector and inlet gases to the GC. It is permeable to oxygen and other contaminants that can damage columns and detectors.

Plastic tubing can melt if near hot exhaust or components.

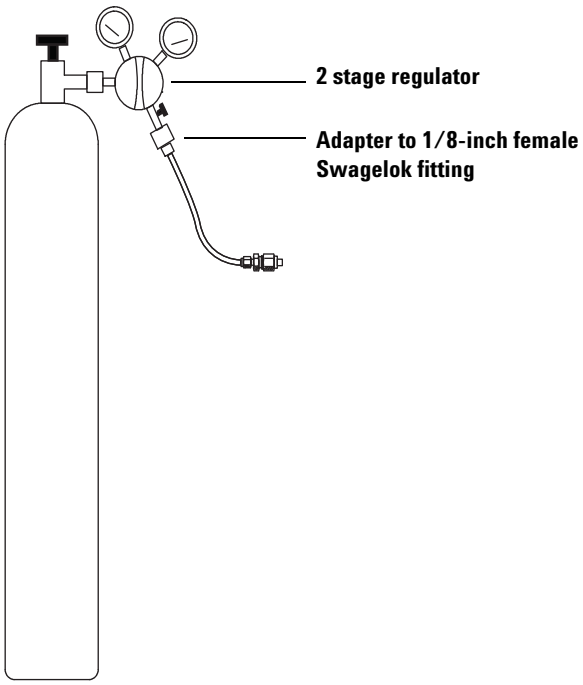
The tubing diameter depends on the distance between the supply gas and the GC and the total flow rate for the particular gas. Tubing of 1/8-in diameter is adequate when the supply line is less than 15 feet (4.6 m) long.

Use larger diameter tubing (1/4-in) for distances greater then 15 feet (4.6 m) or when multiple instruments are connected to the same source. Use larger diameter tubing if high demand is anticipated (for example, air for an FID).

Be generous when cutting tubing for local supply lines—a coil of flexible tubing between the supply and the instrument lets you move the GC without moving the gas supply. Take this extra length into account when choosing the tubing diameter.

Two-stage pressure regulators

To eliminate pressure surges, use a two-stage regulator with each gas tank. Stainless steel, diaphragm-type regulators are recommended.



The type of regulator you use depends on the gas type and supplier. The Agilent catalog for consumables and supplies contains information to help you identify the correct regulator, as determined by the Compressed Gas Association (CGA). Agilent Technologies offers pressure-regulator kits that contain all the materials needed to install regulators properly.

Pressure regulator-gas supply tubing connections

Use Teflon® tape to seal the pipe-thread connection between the pressure regulator outlet and the fitting to which you connect the gas tubing. Instrument grade Teflon tape (part number 0460-1266), from which volatiles have been removed, is recommended for all fittings. Do not use pipe dope to seal the threads; it contains volatile materials that will contaminate the tubing.

Traps

Using chromatographic-grade gases ensures that the gas in your system is pure. However, for optimum sensitivity, install high-quality traps to remove traces of water or other contaminants. After installing a trap, check the gas supply lines for leaks.

Table 11 lists the recommended traps. See the Agilent online store for the complete listing of traps and trap accessories. As shown in Figure 3, install the indicating trap last so that it warns when the combination begins to fail.

Table 11 Recommended traps

Description	Part number
Big universal trap. Removes oxygen, moisture, hydrocarbons, carbon dioxide and carbon monoxide from helium gas streams.	RMS
Indicating oxygen trap (for carrier and ECD gases).	IOT-2-HP

Moisture in carrier gas damages columns. Agilent recommends installing a moisture trap after the source regulator and before any other traps.

A hydrocarbon trap removes organics from gases. Place it after a molecular sieve trap and before an oxygen trap, if they are present.

An oxygen trap removes 99% of the oxygen from a gas plus traces of water. Place it last in a series of traps. Because trace amounts of oxygen can damage columns and degrade uECD performance, use an oxygen trap with carrier and uECD gases. Do not use it with FID or NPD fuel gases.

Maximum Length of Cables

The distance between system modules may be limited by some of the cabling and the vent or vacuum hoses.

- The length of the Agilent-supplied remote cable is 2 meters (6.6 feet).
- The length of the Agilent-supplied LAN cable is 10 meters (32.8 feet).
- The lengths of the power cords are 2 meters (6.6 feet).

Site LAN Network

If you intend to connect your system to your site's LAN network, you must have an additional shielded twisted pair network cable.

NOTE Agilent Technologies is not responsible for connecting to or establishing communication with your site LAN network. The representative will test the system's ability to communicate on a mini-hub or LAN switch only.

NOTE The IP addresses assigned to the instrument(s) must be fixed (permanently assigned) addresses. If you intend to connect your system to your site's network, each piece of equipment must have a unique, fixed (static) IP address assigned to it.

Basic Tools and Consumables

The GC comes with a few basic tools and consumables depending on the specific inlet and detector that you ordered. Below is a general list of what comes with the instrument.

Table 12 Basic tools

Tool or consumable	Used for
7820A GC	
FID flow measuring insert	FID troubleshooting.
Column cutter, ceramic or diamond	Column installation.
Inlet septa appropriate for type	Inlet seal.
Inlet insert or liner	Contains sample during vaporization in inlet.
Toolkit, 19199T	Routine maintenance tasks
Tubing kit, 19199TF	Preassembled tubing for installing supply gases

Table 13 lists other useful tools not included with the GC.

Table 13 Useful tools not included with GC

Tool	Used for
Custom Tee, G3430-60009	Connecting the same gas to front and back EPC module.
ECD/TCD Detector plug, 5060-9055	Inlet pressure decay test
1/8-inch Ball Valve, 0100-2144	Inlet pressure decay test (one per inlet)
Digital flow meter, Flow tracker 1000	Verifying flows, checking for leaks and plugs
Electronic gas leak detector	Locating gas leaks; safety checks when using Hydrogen
Electronic vial crimper	Assuring consistently air-tight vial closure, regardless of who does the crimping

Table 14 lists consumables that you may wish to order. First time GC users should consider purchasing the following supplies in order to maintain their system and prevent interruptions in the use of their system. Please refer to the latest Agilent consumables and supplies catalog and to the Agilent web site at www.agilent.com/chem for part numbers and recommended maintenance periods.

Table 14 Additional consumables

Consumable category	Consumable
Inlet supplies	Septa, o-rings, liners, adapter, and seals
Inlet preventative maintenance (PM) kits	Kits with individual parts needed to maintain an inlet
Pneumatic supplies	Gases, traps, o-rings, seals, Swagelok fittings
Column supplies	Nuts, ferrules, adapters, guard columns, retention gaps
Detector supplies	Jets, beads, liners, adapters, cleaning kits
Application supplies	Standards, columns, syringes

7693A Automatic Liquid Sampler Site Preparation

This section outlines the space and resource requirements for a 7693A automatic liquid sampler (ALS). For a successful and timely installation of the ALS, the site must meet these requirements before beginning installation. Necessary supplies (operating supplies, consumables, and other usage-dependent items such as vials, syringes, and solvents) must also be available. Refer to the Agilent Web site at www.agilent.com/chem for the most up-to-date listing of GC, MSD, and ALS supplies and consumables.

Customer Responsibilities

The specifications in this manual outline the necessary space, electrical outlets, tubing, operating supplies, consumables, and other usage-dependent items such as vials, syringes, and solvents required for the successful installation of instruments and systems.

If Agilent is delivering installation and familiarization services, users of the instrument should be present throughout these services; otherwise, they will miss important operational, maintenance, and safety information.

If Agilent is delivering installation and familiarization services, delays due to inadequate site preparation could cause loss of instrument use during the warranty period. In extreme cases, Agilent Technologies may ask to be reimbursed for the additional time required to complete the installation. Agilent Technologies provides service during the warranty period and under maintenance agreements only if the specified site requirements are met.

Dimensions and Weight

Select the laboratory bench space before the system arrives. Pay special attention to the total height requirements. Avoid bench space with overhanging shelves. See Table 1.

Table 1 Required height, width, depth, and weight

Product	Height (cm)	Width (cm)	Depth (cm)	Weight (kg)
G4513A Injector	51	16.5	16.5	3.9
Additional space requirements				
• GC with 7693A ALS injector		Requires 50 cm (19.5 in) above the GC		

Power Consumption

The 7693A injectors draw power from the GC. No other power source is required.

Environmental Conditions

Operating the instrument within the recommended ranges optimizes instrument performance and lifetime. The sampler system operates in the same environment as its parent GC. See:

7820A GC	Table 5

The conditions assume a noncondensing, noncorrosive atmosphere.

Table 2 Environmental conditions for operation and storage

Product	Conditions	Operating temp range	Operating humidity range	Maximum altitude
G4513A Injector, G4514A Tray, G4515A Bar Code Reader	Operation	–5 to 45 °C	5–95%	4,300 m

Basic Tools

The 7693A ALS comes with a few basic tools and consumables depending on the hardware that you ordered. Below is a general list of what comes with the instrument.

Table 3 Basic tools and consumables

Tool or consumable	Used for
T10 Torx wrench	Replacing turret. Replacing syringe carriage.
Sample vial starter pack	
Syringe, 10 uL	

A
Site Preparation Readiness

This appendix contains an important form that Agilent requires as a prerequisite to Agilent installation and familiarization services.

Before Contacting Agilent for Installation

If you have purchased Agilent installation and familiarization services, it is important that your facility has been completely prepared for GC installation and operation *before* the Agilent service representative arrives. This helps ensure the most timely and efficient service possible.

Before Agilent will schedule installation, you must certify that the site has been prepared and that the GC has arrived and is ready for installation.

To certify your installation site:

1. Prepare the site as described in this manual.
2. Print out the form on the following page.
3. Fill in and return the completed Readiness Certification to Agilent **before** arranging for an installation date. See the form for instructions (next page).

Table 4 Agilent contact information

	FAX	Email
India	Hyderabad : +91-40-23116224 Bangalore : +91-80-41665120 Gurgoan : +91-124-4727102 Mumbai : +91-22-30648339	cag_india@agilent.com
China	+86 28 86267747	yanzl@neower.com

4. Arrange the installation date.

After arranging an installation date, you must still make sure that the appropriate personnel will be available during the installation.

Site Readiness Certification

I have read and understand the 7820A GC Site Preparation requirements, and certify that the site has been prepared for instrument installation as described in this manual, including:

- ❑ Adequate space and suitable supporting bench available
- ❑ Adequate electrical power available at the correct voltages and frequencies
- ❑ Environmental control systems adequate to maintain a correct, stable operating environment
- ❑ Necessary supplies for instrument performance evaluation are available, including solvents, helium carrier gas and other gases as needed for your detectors, and printer paper
- ❑ Adequate computer with LAN connectivity
- ❑ User with administrative privileges on the computer
- ❑ Appropriate personnel will be available during installation

I understand that delays due to inadequate site preparation could cause loss of instrument use during the warranty period.

Return the completed form by:

FAX	See Table 4 on page 32
E-mail	See Table 4 on page 32

Contact your Agilent representative for assistance.

For more information, refer to the Agilent support page at www.agilent.com/chem.

Company Name	
Company Address	
Contact Information (name, phone / e-mail)	
Comments	
Manager responsible for site preparation	Date

Agilent Technologies